AirLink Communications

AirLink Raven II CDPD Modem
User's Manual

AirLink Communications, Inc.

August 9, 2001

Downloaded from www.Manualslib.com manuals search engine

Information in this document is subject to change without notice.

© Copyright AirLink Communications, Inc, 1993-2001. All rights reserved.

Please send comments to:

email: pubs@AirLink.com

Fax: 510-226-4299

Phone: 510-226-4200

Post: AirLink Communications, Inc.
Attention: Technical Publications Dept.
472 Kato Terrace
Fremont, CA 94539

AirLink Tech Support can be reached at 510-226-4200 Mon-Fri 9:00a-5:00p Pacific Time.

Copyright © 2001 AirLink Communications, Inc. All Rights Reserved

Downloaded from www.Manualslib.com manuals search engine

Table of Contents

1. Introduction 1

1.1 The CDPD Network 1

1.2 Modem LEDs: What They Mean 2

2. Getting Started 3

2.1 Contacting the CDPD Service Provider 3

2.2 Configuring the Modem 3

2.2.1 Adding the Modem in Windows 4

2.2.2 Creating the PPP Connection 8

2.3 Installing and Using Wireless ACE 14

2.4 Finding CDPD Service 18

2.4.1 Registration Problems 19

2.5 Troubleshooting 20

3. Hardware Installation 21

3.1 Mounting the Raven II 21

4. Additional Information 26

4.1 Modem Technical Specifications 26

4.2 More Information 27

Copyright © 2001 AirLink Communications, Inc. All Rights Reserved

Downloaded from www.Manualslib.com manuals search engine

Downloaded from www.Manualslib.com manuals search engine

AirLink Raven II CDPD Modem
User's Manual

1. Introduction

This manual covers information for first-time setup and configuration of your AirLink CDPD Raven II Modem, as well as technical details on this modem.

For detailed information on specific modem parameters please read the **AirLink Raven/PinPoint CDPD Modem User's Manual**. The parameters for the Raven II are at this time *identical* to those of the Raven.

Updates to this manual and other manuals may be obtained online at: **http://ww.airlink.com/modems**

What is CDPD?

CDPD is a technology used to transmit packet data over cellular voice networks. It is ideal for wireless applications. It is also more cost effective than circuit-switched cellular data for small amounts of data. It provides instantaneous response for data communications because there are no dialing delays. Built-in encryption maintains the security of the application data over the air.

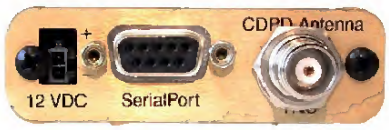
1.1 The CDPD Network

Figure 1 – Raven II in CDPD Environment

Downloaded from www.Manualslib.com manuals search engine

The Raven's rugged form factor is ideal for industrial and commercial applications that require real-time communications. The Raven provides wireless data communications for a variety of applications, such as oil and gas monitoring, public safety, automated signs, financial transactions, and security systems. It works with Remote Telemetry Units (RTUs) from several manufacturers (configuration instructions are detailed in the **Raven/PinPoint User's Manual**).

Front of Raven II



Back of Raven II

1.2 Modem LEDs: What They Mean

When the modem is operating, the LEDs on the front panel provide the following information. (see *Finding CDPD Service* for more info):

LED	Description
Chan	The unit has acquired a valid CDPD channel (solid), or is scanning for CDPD channels (flashing).
Link	A link has been established and a TEI (Temporary Equipment Identifier) has been assigned.
Reg	The unit is registered on the CDPD network (solid), or has switched to a non-preferred side (flashing).
RSSI	Flash patterns identify different RSSI levels in dBm: -69 and up — Solid ON [best reception] -70 to -79 — 300 ms (fast blink) -80 to -89 — 600 ms (medium blink) -90 to -99 — 1200 ms (slow blink) -100 to -113 — Off [worst reception]
TxRx	The unit is transmitting/receiving blocks of data.
Err	Block errors on the forward or reverse channels.
Pwr	The unit is powered on.

Downloaded from www.Manualslib.com manuals search engine

2. Getting Started

This section covers:

- Getting an IP address from a CDPD Service Provider.
- Setting up Windows to configure the modem with Wireless ACE.
- Reading the lights on the modem to ensure your connection is working.

2.1 Contacting the CDPD Service Provider

The first step you must take before using your AirLink modem, is to contact a CDPD Service Provider in your area. You will need to obtain the following information from your Service Provider (or carrier):

- You need a CDPD account for each modem. The carrier will provide an IP address for each account. You will need to give them the modem's Equipment ID (EID) which can be found on the label on top of the modem.

  The IP address is a valid Internet address and is matched up with your unique EID.

- Ask about Side Preference - Does your Service Provider provide service on the A-side or B-side? Is there another CDPD Service Provider in your area?

  If you have CDPD service on one side only and will not be using the modem outside this area, set the side preference to A *only* or B *only*.

  If the modem will be used in other areas and you want to use any other CDPD service that is available, set your modem to "A-side preferred or "B-side preferred." Ask your Service Provider about the costs of using CDPD services other than them.

  WARNING: Sometimes there are additional costs if you use a side other than your carrier's.

2.2 Configuring the Modem

Now that you have the IP address and Side Preference for your modem, you will need to hook it up to a PC to configure the Raven II with the correct parameters.

There are two ways to accomplish this:

1. Use AT commands via a Terminal emulation program to configure the modem (see **Raven/PinPoint User's Manual** for further instructions on this method).
2. Use **Wireless ACE** on a Windows computer to configure the modem. This is the *recommended* method that is detailed in this manual.

Downloaded from www.Manualslib.com manuals search engine

Wireless ACE needs a Dial-Up Networking (PPP) connection to talk to the modem via Windows. *Before* configuring the PPP connection, first do the following:

- Verify no other modems are installed that will conflict with your AirLink modem, and verify there are no applications running that will interfere with the COM port you are using. (See *Adding the Modem* for more information.)
- TCP/IP must be installed on the system. Verify this by checking **Control Panel→Network**.
- Dial-Up Networking must be installed which provides the PPP connection for communicating with your AirLink modem. You can verify this by checking:

  Control Panel→ Add/Remove Programs→ Windows Setup→ Communications→ Dial-Up Networking

  It should have a black checkmark next to it. If not, check the box. You may be prompted for your Windows CD to install DUN. After installation, you may have to reboot.
- Ensure you have a disk labeled "Modem Utilities" (or you have previously installed another AirLink Product from a CD).

  Otherwise you will be directed to various website links in this manual for finding the files you will need.

Each of the following sections will walk you through how to do the above, step-by-step, and get your Raven II working so you can begin using it.

The Dial-Up Networking (PPP) configuration in this manual uses Windows ME (Millennium Edition) setup screens for examples. This setup is *very* similar to a Windows 95/98 configuration.

For precise instructions on a particular Operating System setup please check the Appendix of the **Raven/PinPoint User's Manual** (available online at http://www.airlink.com/modems and select the Raven II support page), or go to our website instructions at http://www.airlink.com/help and select the Operating System you are installing on for step-by-step instructions online.

2.2.1 Adding the Modem in Windows

Your computer must have Windows ME (or some other version of Windows for using Wireless ACE) and the computer must have an available serial (COM) port to which you will attach your Raven II.

Important: Ensure the serial or COM port you will be using on your computer *is* available. Below are the items you can check so that your AirLink modem will work properly in Windows.

- **Do you have any software running that uses a COM port?** Confirm that the Windows computer that you are using does *not* have any software loaded that may interfere with the COM port you're going to use. For example, HotSync - software used for communicating with the

Downloaded from www.Manualslib.com manuals search engine

PalmPilot can occupy the COM port even if you do not have your PalmPilot connected to that COM port at this time.

Check any software that loads when your computer starts up - any software that appears as an icon on your Windows Taskbar - and **Disable/Exit** any applications that normally use a COM port.

- **Do you have another modem installed?** Older internal modems can cause COM port conflicts. PC Card (PCMCIA) modems in laptops can switch the COM port number of your built-in COM port. For example, your built-in COM port is COM1, but when you install your PC Card modem, that modem becomes COM1 and your built-in COM port becomes COM2.

  Remove your PC Card modem until you verify your AirLink Modem is working, or ensure your internal modem won't be conflicting with the COM port your AirLink modem is attached to.

- **Infrared ports** on laptops/desktops may cause similar conflicts. They too can change the COM port number, or sometimes "share an interrupt" with an existing COM port which can cause your serial port not to work (since the IR port is usually active by default). Check your BIOS settings or computer manual to disable this port, or ensure it will not be conflicting.

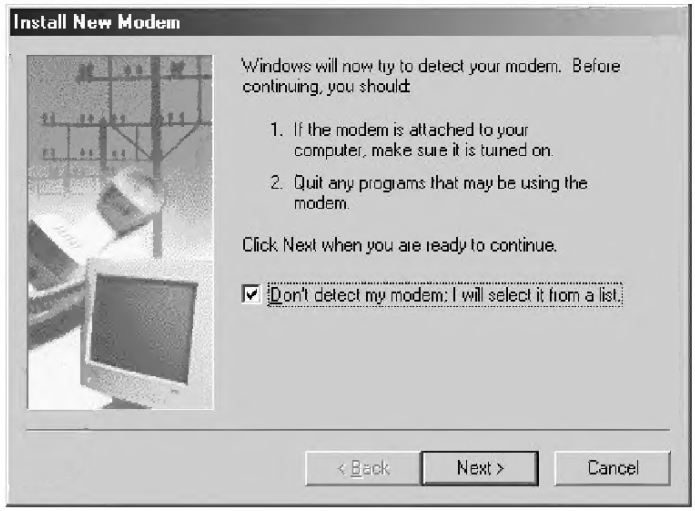
Now setup the Raven II on the computer:

1. Plug in the AC adapter and attach it to the modem. Verify the **Pwr** light is lit.
2. Attach the antenna to the modem.
3. Connect the PC to the modem with a standard DB-9 male connector for the modem end, and a DB-9 or DB-25 on the other end for the PC. The cable wiring should be straight through, *not* a null-modem cable. (This cable may be provided with your modem.)
4. If you have previously installed another AirLink product (like ATS) from a CD, then skip to step 6.

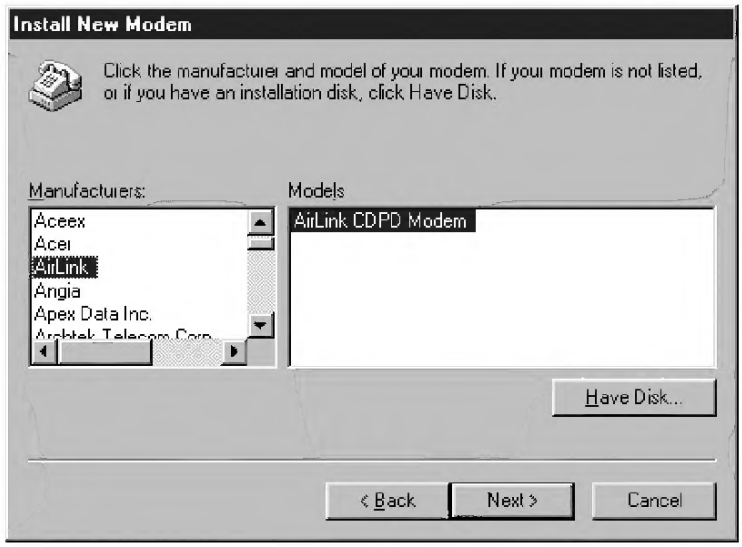
   Insert your "Modem Utilities" disk into the computer. (Or download the Windows modem driver from http://www.airlink.com/modems.)
5. Copy the file **mdmarlnk.inf** to the Windows' **INF** directory. Usually this is "C:\Windows\Inf".

   NOTE: *This is a hidden directory and you will not see it with a default configuration. Turn on the ability to view hidden files in your Windows Explorer to see the directory.* Select "Show all files" under **View→Folder Options→View**.
6. Open **Control Panel→Modems→Add**. This brings up the "Install New Modem" dialog box.
7. Select **Other** then **Next.** This changes the dialog box.
8. Select "**Don't detect my modem....**", then **Next.**

Downloaded from www.Manualslib.com manuals search engine

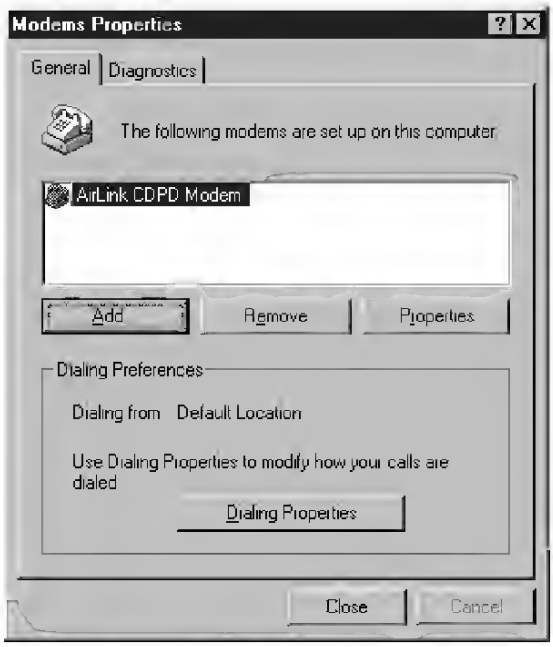

Install New Modem
Windows will now try to detect your modem. Before continuing, you should:
1. If the modem is attached to your computer, make sure it is turned on.
2. Quit any programs that may be using the modem.
Click Next when you are ready to continue.
Don't detect my modem; I will select it from a list.
< Back
Next >
Cancel

9. A driver information database is built and a list of modems is displayed. From the list of manufacturers, select **AirLink**. This should display and highlight **AirLink CDPD Modem**.



10. Select **Next.** This should display a list of available COM ports.
11. Select the appropriate one, usually **COM1**, then **Next**.
12. You should see a dialog box telling you that "Your modem has been set up successfully". Select **Finish**.
13. A list of installed modems will be displayed. **AirLink CDPD Modem** should be one of them.

Downloaded from www.Manualslib.com manuals search engine



14. Select the **AirLink CDPD Modem** from the list, then select **Properties**.

15. In the "AirLink CDPD Modem Properties" dialog box, set the **Maximum Speed** to the desired setting. The default is **9600**.

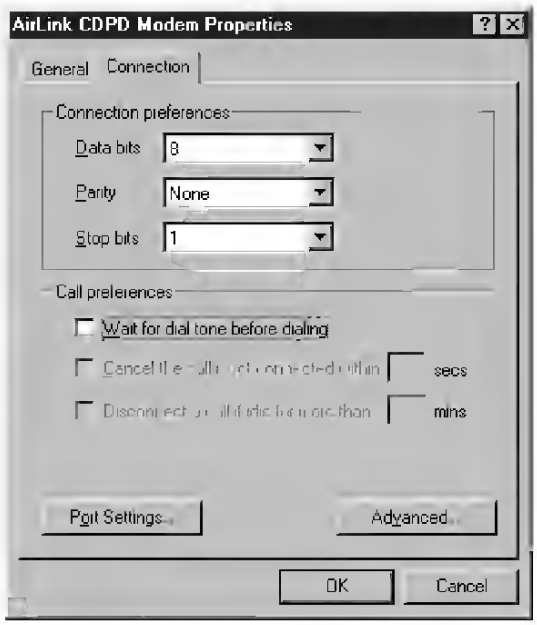
    Note: *If this is your **first time** setting up the modem, leave this setting at **9600** for now. Otherwise, be sure to set the speed to whatever speed you have configured the modem for.*

Downloaded from www.Manualslib.com manuals search engine

16. Select the Connection tab and set the **Connection Preferences** to

    Data bits: **8**
    Parity: **None**
    Stop bits: **1**

    Uncheck (disable) "Wait for dial tone before dialing."



17. Select **Port Settings**. You should see the Advanced Port Settings dialog. Check the box for **Use FIFO buffer** if appropriate. If the button is enabled, it is probably appropriate.
18. Select **OK.** You should go back to the Connection tab.
19. Select **Advanced**. You should see the Advanced Connection Settings dialog.
20. Set **Use Flow Control** and **Hardware**, then select **OK**. Only hardware flow control is available.
21. Select **OK** on the "AirLink CDPD Modem Properties" dialog box.
22. Select **Close** on the "Modem Properties" dialog box

2.2.2 Creating the PPP Connection

This section details the configuration of the Windows Dial-Up Networking PPP Connection.

1. Select **Start→Settings→Dial-Up Networking**

   If Dial-Up Networking is *not* installed, please go to **Control Panel→ Add/Remove Programs→ Windows Setup→ Communications→ Dial-Up Networking** and check the box next to it. During this installation, you may be prompted for your Windows CD and have to reboot afterwards.

Downloaded from www.Manualslib.com manuals search engine

2. Double-click on the **Make New Connection** icon.
3. In the "Make New Connection" dialog box, type in the connection name **CDPD Modem PPP**

   Note: The PPP connection name is *important* as **Wireless ACE** will look for this entry name later.

4. For "Select a device" choose **AirLink CDPD Modem**.
5. Select **Next**
6. Make the following selections:

   Area code = (leave it blank)

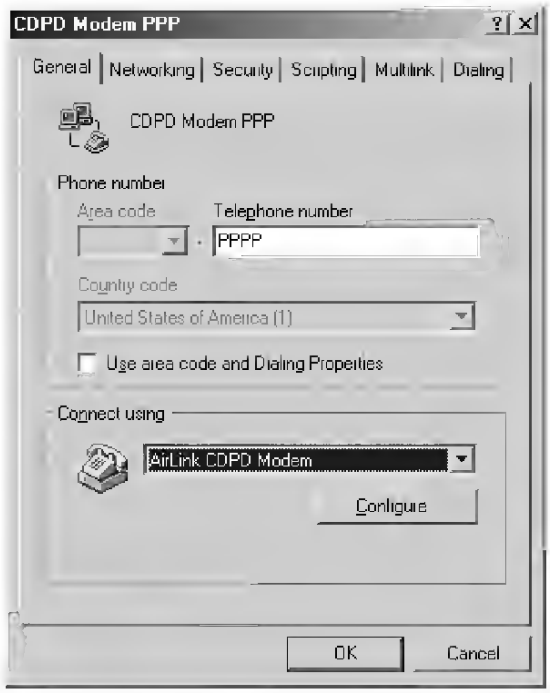
   Telephone number = **PPPP** (this is not a typo)

   Country code = **United States of America** (unless you live somewhere else)
7. Select **Next**
8. Select **Finish**.

You should now have a new icon in the "Dial-Up Networking" window named "CDPD Modem PPP."

9. Right-click on the new icon and select **Properties** from the menu.
10. It should display the contents of the "General" tab. Ensure that **Use country code and area code** is not checked (disabled).

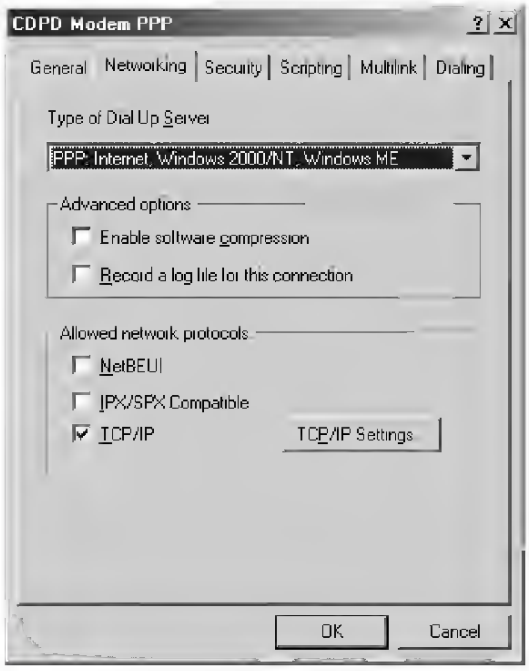
Downloaded from www.Manualslib.com manuals search engine



11. Select the "Server Types" tab. Make the following selections:

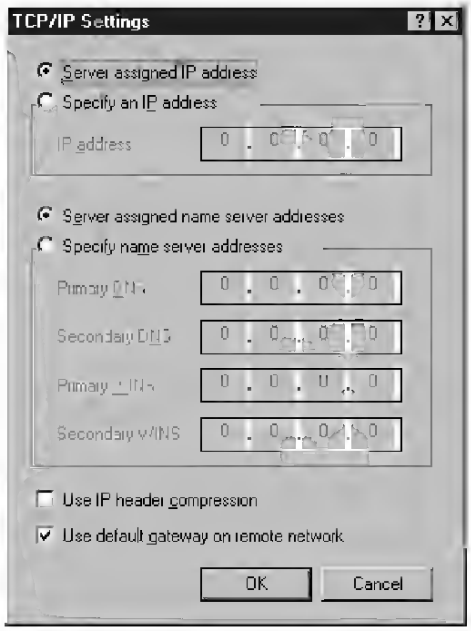
    Type of Dial-Up Server = **PPP: Internet, Windows 2000/NT, Windows ME**.

    Uncheck (disable) all the other options *except* for **TCP/IP**.



12. Click on the **TCP/IP Settings** button.

Downloaded from www.Manualslib.com manuals search engine



13. Leave **Server assigned IP address** and **Server assigned name server addresses** checked.

14. ***(optional)*** If you will be using your modem as an internet connection for browsing websites, using FTP, etc., you will need Domain Name Service (DNS) servers listed here.

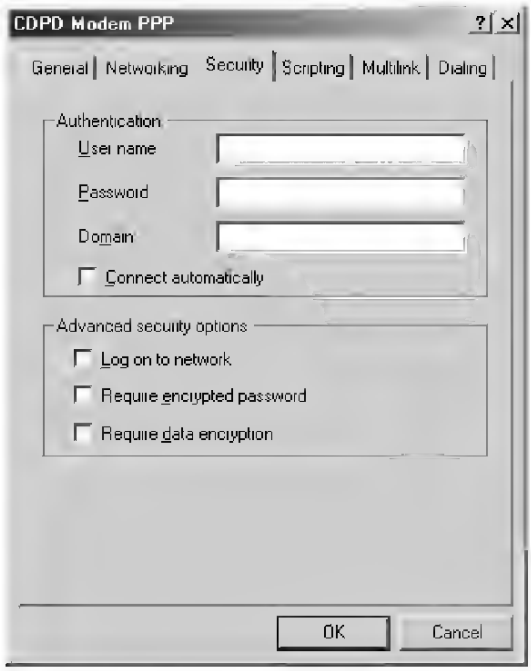
    To enter the addresses, check (enable) **Specify name server addresses** and enter the IP address of the Primary DNS and Secondary DNS servers.

    If you are unsure about where to obtain these numbers, contact your system administrator or CDPD Service Provider.

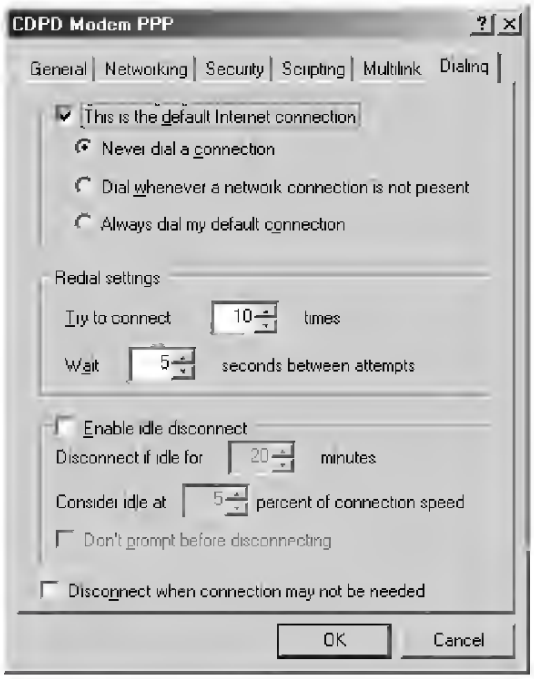
15. Uncheck (disable) **Use IP header compression**.

16. Select the "Security" tab.

Downloaded from www.Manualslib.com manuals search engine



17. Clear the **User Name**, **Password** and **Domain** field.
18. Uncheck (disable) all of the other options.
19. Select the "Scripting" tab
20. Uncheck (disable) **Start terminal screen minimized**.
21. Select the "Dialing" tab.



22. Uncheck (disable) **Enable idle disconnect**, also uncheck **Disconnect when connection may not be needed**.

Downloaded from www.Manualslib.com manuals search engine

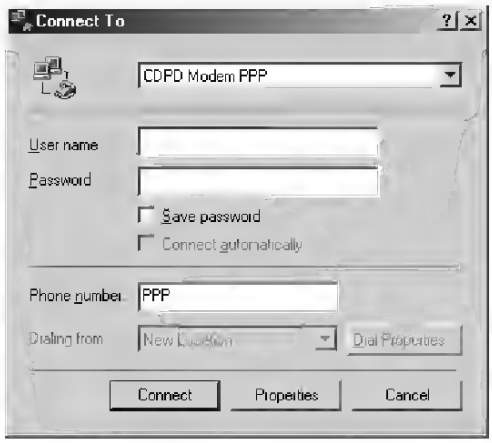
23. Select **OK**

Now you may test the PPP connection you have created if you wish. Otherwise you will be configuring **Wireless ACE** to startup your PPP connection automatically, later in the manual.

1. Double-click on the "CDPD Modem PPP" icon in the Dial-Up Networking window.
2. You should see a "Connect To" dialog box. Verify the following settings

   User name and **Password** are blank.

   Phone number = **PPP** (note that three P's appear here even though four were entered earlier. That is normal with Windows Millennium Edition.)
3. Select **Connect**. You should see a "Connecting to CDPD Modem PPP" dialog box.



Windows will establish a PPP session with the modem. When it succeeds, it will display the Dial Up Networking icon on the right of the Windows task bar (the two small computers)at the bottom of the screen.

Double-click on this icon for connection status information.

Hovering over it (moving the mouse there but not clicking) causes Windows to display reports on the number of bytes sent and received.

If you fail to establish a connection, review your settings starting with the *Configuring the Modem* section. A list of error messages and quick solutions are listed in the *Troubleshooting* section.

Proceed to the next section on Wireless ACE to setup your modem with it's IP address and Side Preference so you can begin using it.

Downloaded from www.Manualslib.com manuals search engine

2.3 Installing and Using Wireless ACE

This section walks through installing Wireless ACE and then using it to initially configure your modem

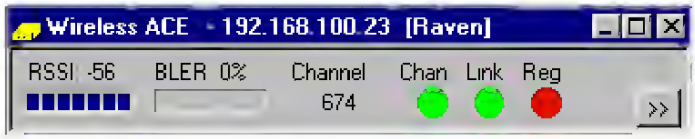
Before proceeding with installing and using Wireless ACE, you must first have configured the Dial-Up Networking connection on your system. (See *Configuring the Modem* for details.)

Wireless ACE (or ACE) is a Windows-based utility that is used for configuring or checking status on your AirLink CDPD Modem either locally or remotely. ACE needs a PPP connection to talk to the modem over a serial port (a local connection). This is required for initial configuration of a modem.

Note: Some of AirLink's *other products* will install Wireless ACE along with it. If another AirLink product is installed, check to see if you see a Wireless ACE icon in its Program Group. This installation assumes Wireless ACE was only provided with the "Modem Utilities" disk.

1. Insert the "Modem Utilities" disk.
2. Go to **Start→Run** and type in A:\acesetup.exe
3. You'll be prompted for the default directory C:\ACE, hit **Enter** and this installs Wireless ACE to C:\ACE on your hard drive.

   Note: If you download ACE from the AirLink website, it will be in the form of a ZIP file, in which case the contents should be extracted to C:\ACE. (You can download the file from http://www.airlink.com/ace)
4. Start Wireless ACE by double-clicking on **ace.exe** (or creating a shortcut for it). You should see the following:



Note that the Reg (Registered) light is red, and occasionally the Link light turns red. The modem is trying to register on the CDPD network and cannot because it doesn't have a valid IP address yet.

If you see a picture of the modem with a red X, it means Wireless ACE cannot communicate with the modem. Check that:

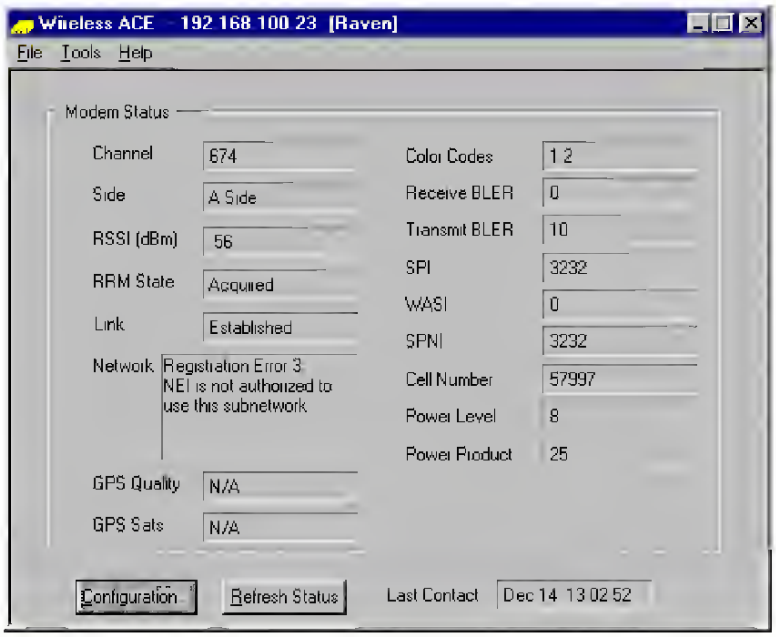
- The modem is On.
- The cable is properly installed.
- The antenna is on securely.
- Dial-Up Networking has established a connection to the modem.
- If you are on a LAN, ensure your machine's IP address is not in the 10.x.x.x network (e.g.: 10.0.0.1 or 10.1.23.5, etc.)
- If you receive an Error 629 or Error 630 while connecting to the modem with DUN, ensure there is nothing else on the COM port - software like HotSync, internal modems, or PC Card (PCMCIA)

Downloaded from www.Manualslib.com manuals search engine

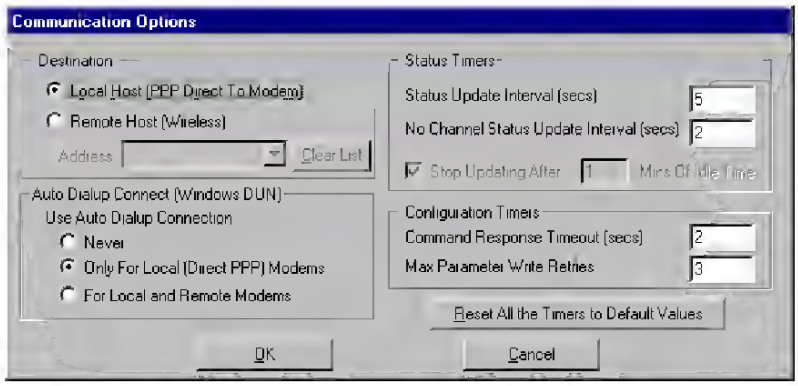
modems. Also ensure you are set for the correct baud rate. Default is 9600.

- see the *Troubleshooting* section for more.

5. Select the Maximize button (the arrows button). This causes Wireless ACE to display its Status Screen.



6. Select **Tools→Communications Options**. This causes ACE to display the Communications Options Dialog box.

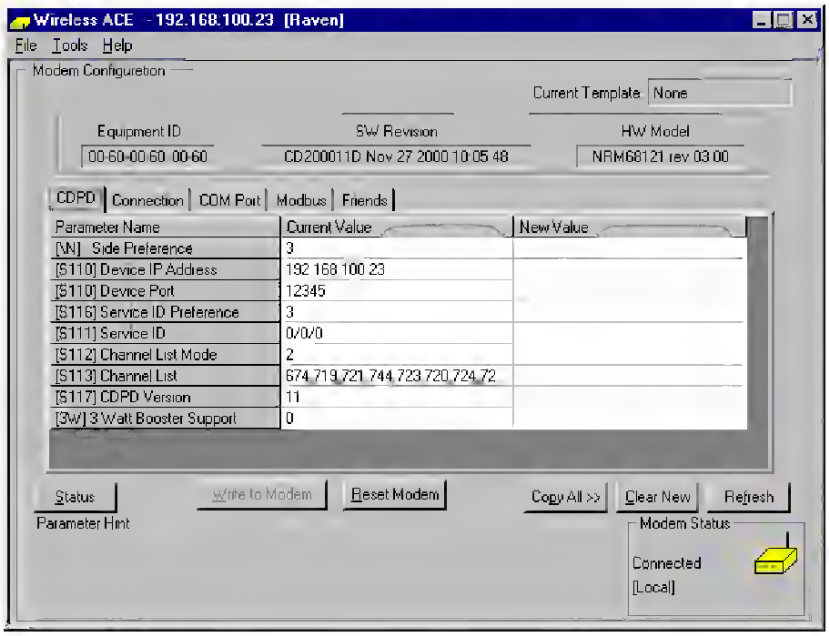


7. Select Local Host (PPP Direct to Modem) radio button, ensure either "Only for Local" or "For Local and Remote Modems" is selected in the AutoDial-Up (Window DUN) box.

8. Select the **OK** button.

Downloaded from www.Manualslib.com manuals search engine

9. Select the **Configuration** button. This causes Wireless ACE to display its Configuration Screen.



10. Change the modem password. The default password is **12345**. You *need* to change the password to your modem. Passwords can be case sensitive and include numbers. Use **Options→Change Modem Password...** or Ctrl-H. The password can be up to eight characters in length.

11. Double-click on the **New Value** column for each of the following to change it:

- **Side Preference** – enter the side preference that your CDPD Service Provider gave you. This is important so you are not *over*charged for "roaming" to another CDPD carrier.

  The CDPD RF channels are divided into side A and side B. This enables two carriers to provide service in the same area.

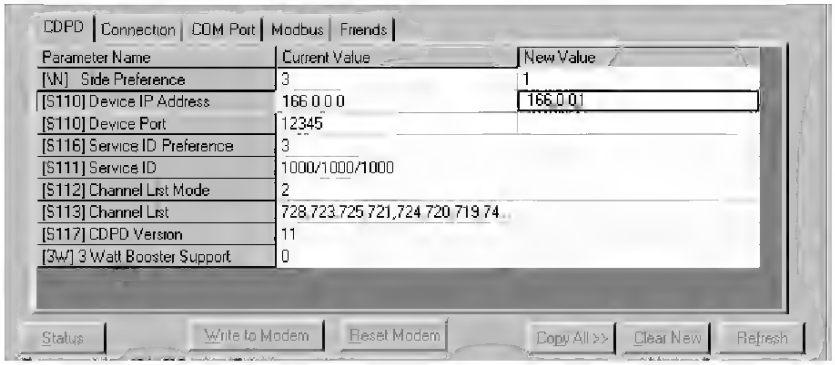
  The choices are:

  1 = A only
  2 = B only
  3 = A preferred

Downloaded from www.Manualslib.com manuals search engine

4 = B preferred

- **Device IP Address** – enter the IP address you were given from your CDPD Service Provider.



12. If you know of other parameters you have to change, you may do so now. Otherwise go to step 13.

    Note: If you change the COM port speed, reset the modem before connecting to it at a different speed. If the baud rate is changed, it will have to be changed in both "CDPD Modem PPP" properties and **Control Panel→Modems→Airlink CDPD Modem→Properties**.

    (See AT command reference for details on other parameters.)

13. Select **Write to Modem** to send the updated information to the modem. You'll be prompted for your new password that you entered earlier.

    If you did not change it, then the default modem password is **12345**. It is ***highly recommended*** that you do change your password (Use Ctrl-H to change it)

14. Reset your modem when prompted to do so.

15. When the modem comes back up in ACE, click on the **Status** button to see that the modem is properly registering now.

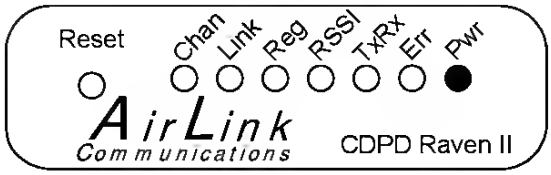
The next section covers some information on reading the lights on the front of your modem and verifying your modem is operating.

Downloaded from www.Manualslib.com manuals search engine

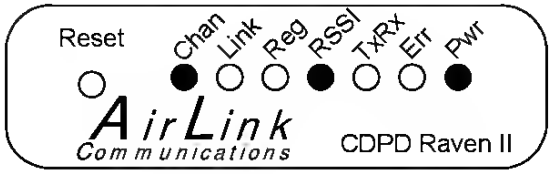
2.4 Finding CDPD Service

When the modem is reset, it will start searching for CDPD service on the side specified. The only LED that will be on is the power **On** LED. The lights will do two quick sweeps from right to left as a self-check.

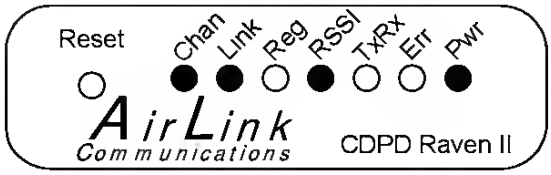
Scanning - The modem will scan all the channels on the side, sort the channels by the signal strength (RSSI) and begin searching for CDPD service starting with the highest RSSI, the strongest signal. The **Chan** LED will be flashing while it scans.



Acquiring Channel - When the modem finds a CDPD channel and acquires synchronization, the **Chan** LED will be solid on. The **RSSI** LED might be solid on, fast blinking, slowing blinking or off, depending on the signal strength.

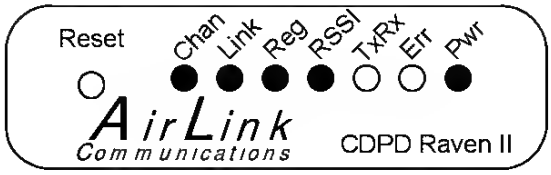


Establisbing a Link - Once the modem acquires a CDPD channel, it will request a Temporary Equipment Identifier (TEI), resolve the link parameters, and establish the link layer connection. Once these steps are accomplished, the **Link** LED will be illuminated. The **TxRx** LED will flash briefly during this time.



Downloaded from www.Manualslib.com manuals search engine

Registering - After acquiring a link, the modem will perform an encryption key exchange, and register its IP Address. If the registration is successful, the **Reg** LED will be turned on. Again, the **TxRx** LED will flash briefly during this time.



If the Reg light flashes then this is indicating your side preference is set for either "A-side preferred" or "B-side preferred" and that the modem has switched to the *non-preferred* side. The modem will de-register after ten minutes or so and go back to the preferred side. If there is still no service on the preferred side, it will switch back to the non-preferred side and continue this pattern forever.

Setting your modem to a "preferred" side preference (or the wrong side preference) can incur additional charges on your CDPD bill when the modem uses the side that your provider does not use.

2.4.1 Registration Problems

If the registration was unsuccessful, the **Chan**, **Link**, and **RSSI** LEDs will blink off while the modem scans to another channel. When the modem finds another CDPD channel, the preceding sequence will repeat. If the modem is never able to register successfully:

- The modem can be configured with the wrong side preference. Recheck the Side Preference setting in the modem.
- The authentication parameters might need to be reset.

  Please contact AirLink Tech Support and we will contact your CDPD Service Provider to have them verify that your IP address is valid and to reset your authentication parameters. Be prepared to provide us your modem's EID, too.

Downloaded from www.Manualslib.com manuals search engine

2.5 Troubleshooting

Error 629 or **Error 630**	Ensure you are set for the correct baud rate. Default modem speed is 9600. Check Properties for "CDPD Modem PPP", select **Configure** and ensure the speed matches what your modem speed is set for **OR** Ensure there are no other applications running that use the serial (COM) port that your AirLink modem is using. Software like HotSync (for the PalmPilot), internal modems, PC Card (PCMCIA) modems, or IR ports, may interfere. (See *Adding the Modem in Windows* for more information.) **OR** Check that the modem or cable is not loose or disconnected.
No Power light	Incorrect wiring for power, no power or bad power strip.
Only **Chan** light flashing (no **Link** light, etc.)	No CDPD Service in your area, or cellular antenna is not on, or the modem has the wrong side preference, or move the modem towards a window. (See *Finding CDPD Service*.)
Chan light flashes, goes on solid, **Link** light comes on, but not **Reg**, then lights turn off, **Chan** light flashes and cycle repeats.	The modem is trying to register on the CDPD network but cannot. • Check to make sure a valid IP address is entered in the Device IP Address field in the modem. • The credentials may need to be reset. Contact AirLink Tech Support who will contact your CDPD Service Provider.
Modem resets (power stays on)	ATZ will reset the modem. Check your app to make sure it is not sending an ATZ.
Modem power cycles on/off	Wrong AC adapter, or not enough power to the modem, or bad wiring. At least a 12V 300mA adapter is necessary.

Downloaded from www.Manualslib.com manuals search engine

3. Hardware Installation

This section details the hardware specs of the Raven II and mounting it with other hardware, the power requirements, mounting bracket, etc.

3.1 Mounting the Raven II

The Raven II should be mounted in a position that allows easy routing and access for the cables. There should be no binding or sharp corners in the cable routes. The Raven II should be mounted so that the LEDs on the front panel can be easily seen for ease of operational verification.

The snap-in mounting bracket (part number 100-170-1006) is installed using #8 or #10 screws. Press the Raven down firmly into the bracket and note that both sides have locked into the groove on the Raven II case.

Figure 1 - Raven II Mounted in Mounting Bracket

Note: The tie-wrap is if the modem needs to be really secure, as in a vehicle or in shipping. In stationary applications, as in a box that sits out in a pasture with a solar cell, etc., the tie-wrap is not necessary.

Downloaded from www.Manualslib.com manuals search engine

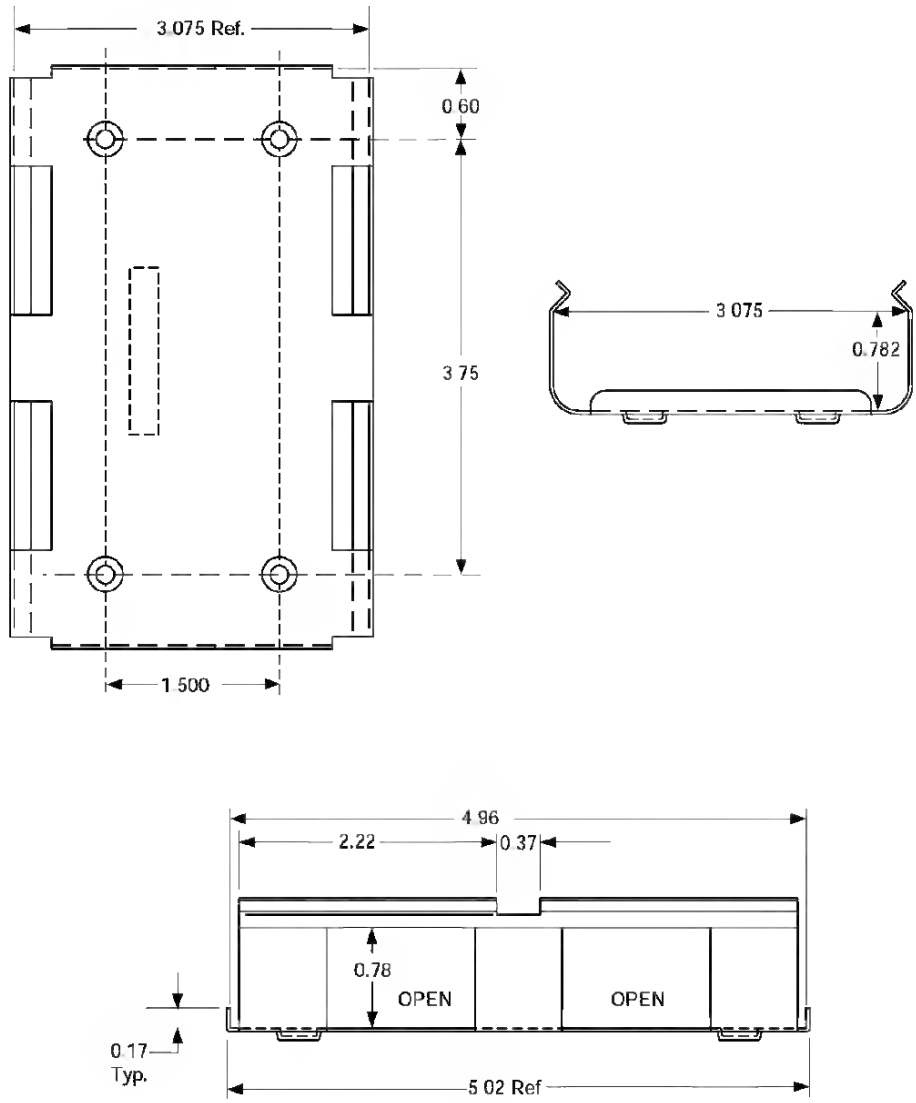


Figure 2- Snap-in Mounting Bracket

Downloaded from www.Manualslib.com manuals search engine

Connecting the antenna

Install an appropriate external cellular antenna. Connect the antenna to the external jack of the bulkhead jack adapter with an appropriate RF cable. Connect the Raven antenna jack to the interior bulkhead jack with an appropriate RF cable.

Connecting the serial cable

Connect the RTU/PLC meter serial port to the Raven serial port with a DB-9 male connector.

Grounding the Raven Case

The exterior Raven II case should be connected to the enclosure ground which should be connected to the battery or power source negative terminal. This is best accomplished with a grounding strap under one of the mounting bracket screws to the enclosure grounding bar.

Connecting the power cable

The power cable positive lead should be connected to the battery or power source positive terminal. The power cable negative lead should be connected to the battery or power source negative terminal. The Raven II has an internal polysilicon circuit breaker that opens at 0.5 to 1.0 amps of current.

Insert the power connector into the Raven II power receptacle.

Figure 3 - Raven II Back Panel

Downloaded from www.Manualslib.com manuals search engine

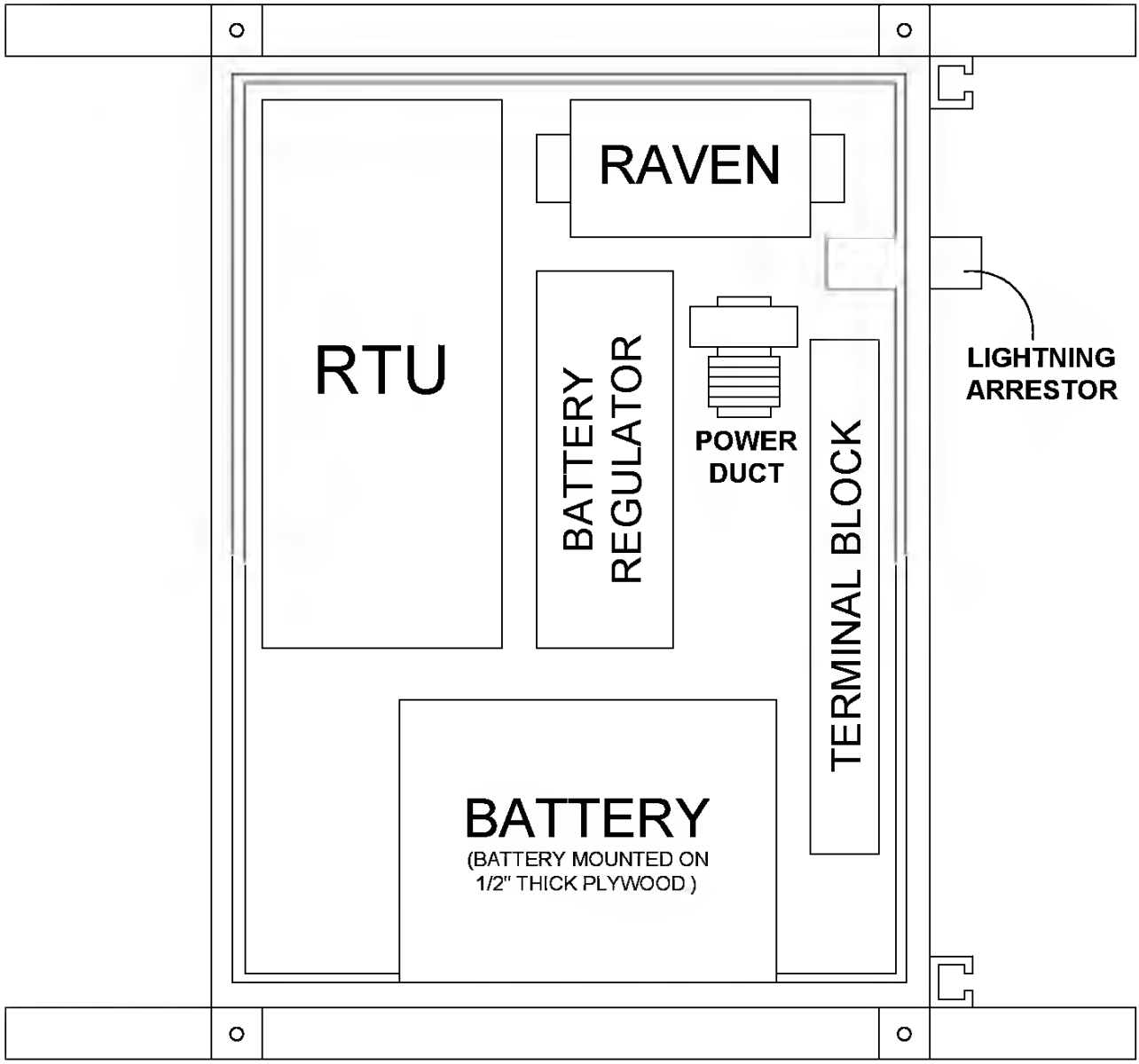


Figure 4 Raven mounted in an enclosure with RTU

Downloaded from www.Manualslib.com manuals search engine

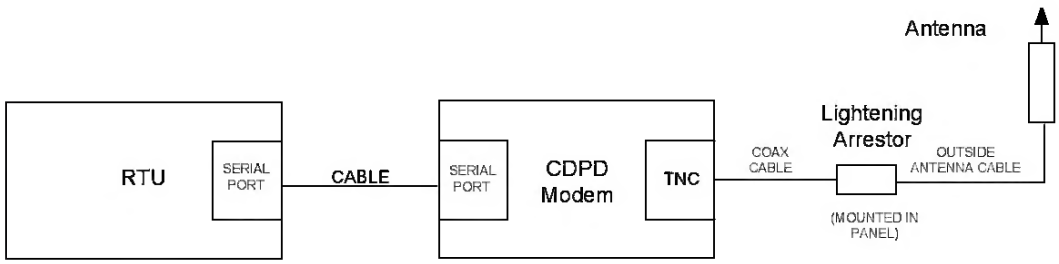


Figure 5 - RTU to Raven II setup

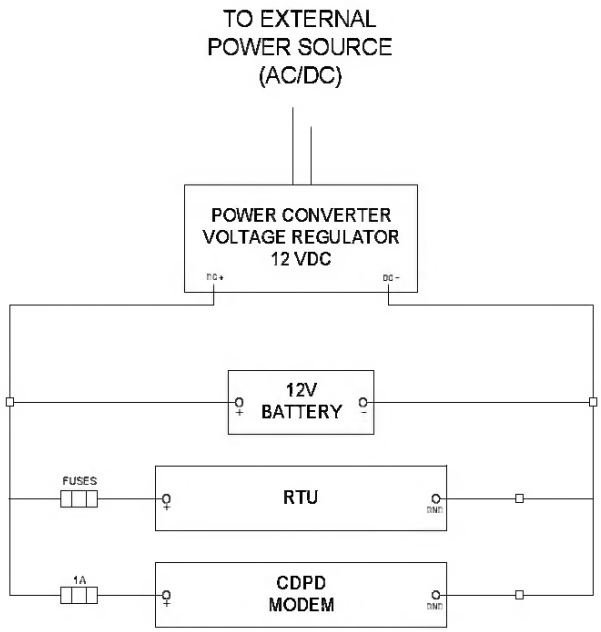


Figure 6 - Power Connections

Downloaded from www.Manualslib.com manuals search engine

4. Additional Information

4.1 Modem Technical Specifications

Physical Characteristics	
Weight:	< 1 lb.
Size:	5.1" x 3" x 1"
Status LEDs:	Power
	Channel Acquired
	Link Status
	Network Registration
	RSSI
	Transmit/Receive
	Block Errors

Novatel Wireless CDPD Modem NRM6832	
Integrated TCP/IP	Full Duplex
Transmit Power	600 mW
Transmit	824-849 MHz
Receive	869-894 MHz
RF Protocol	CDPD 1.1
Airlink Data Rate	19.2 Kbps
Serial Protocols	AT Commands, PPP, SLIP
RTU Protocol conversions	Modbus, BSAP, DNP, Others

RF Antenna Connector
50 Ohm TNC

Power Requirements	
Input Voltage	9 VDC to 30 VDC
Input Current	30mA to 450mA
Typical Receive	50mA at 12 VDC
Typical Transmit	280mA at 12 VDC

Serial Interface
RS-232 DB-9F
1200-38,400 bps

Environmental
Operating Temperature Range: -30°C to 70°C (10% duty cycle above 60°C)
Humidity: 5% - 95% Non-condensing

Warranty	
Software	1 year updates & feature enhancements
Hardware	1 year parts and labor
	Extended warranties available

Downloaded from www.Manualslib.com manuals search engine

4.2 More Information

The **AirLink Raven/PinPoint CDPD Modem User's Manual** contains in-depth details on modem parameters, Windows 2000 and NT 4.0 installations, and Modbus configuration, upgrading modem firmware, and more.

The User's Manual is available online at http://www.airlink.com/modems, and selecting the Raven II support page.

(If you are using another AirLink product, you may have a copy of the manual on your computer already. For example, check the "ATS\Utilities\Manuals" folder for **RavenPinPointManual.pdf** if you have ATS installed. You will need need Adobe Acrobat Reader installed first (under **Extras** folder on your CD or www.adobe.com) in order to read the document.)

For an updated version of this manual:	www.airlink.com/modems
Frequently Asked Questions on AirLink Products:	www.airlink.com/faq
Additional AirLink Product Information:	www.airlink.com/products
Online help (Win 2000, NT PPP setup, etc.):	www.airlink.com/help
For additional technical assistance:	support@airlink.com
For additional product information:	info@airlink.com

Downloaded from www.Manualslib.com manuals search engine

Downloaded from www.Manualslib.com manuals search engine